FIG. 1

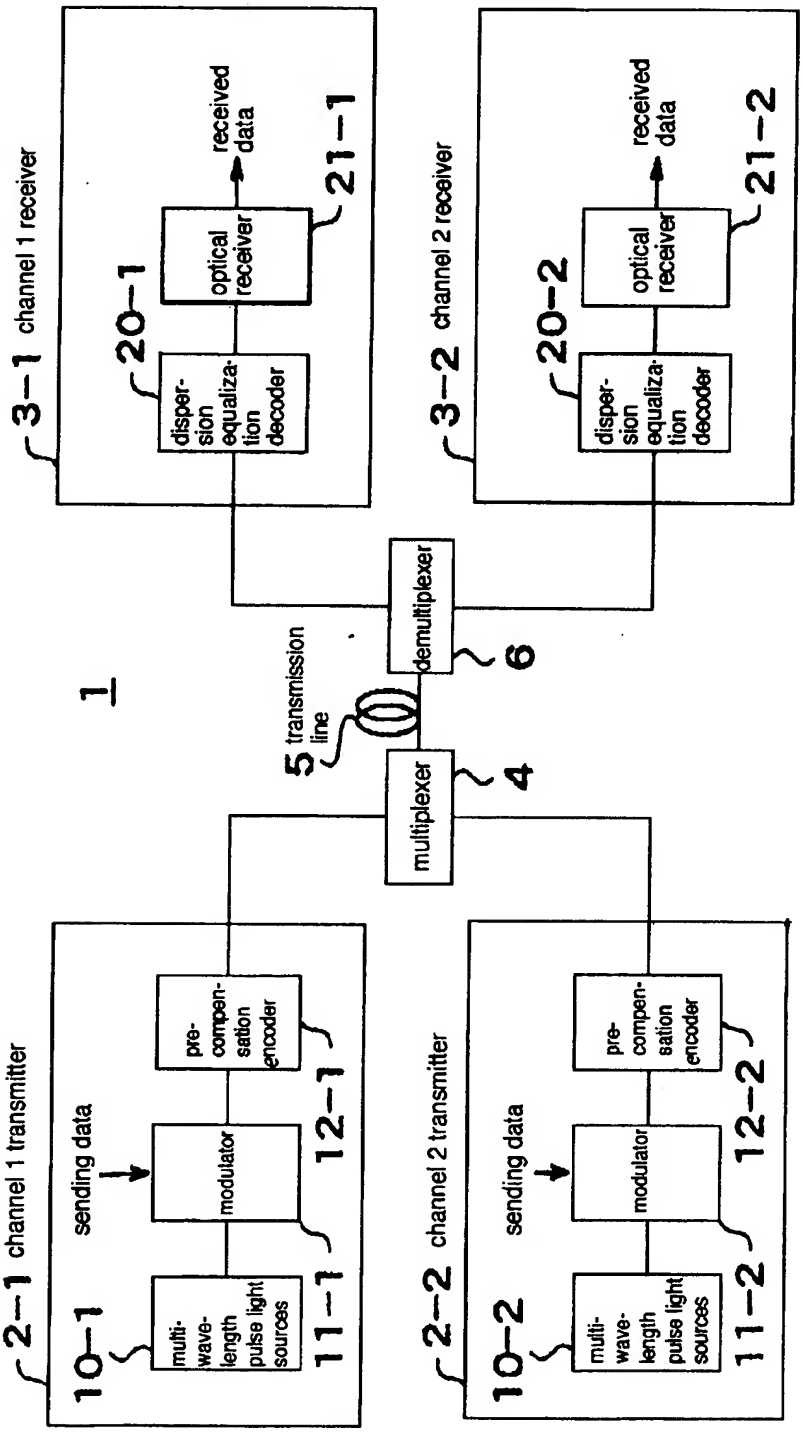

1
2-1 channel 1 transmitter
2-2 channel 2 transmitter
3-1 channel 1 receiver
3-2 channel 2 receiver
4 multiplexer
5 transmission line
6 demultiplexer
10-1
10-2
multi-wave-length pulse light sources
11-1
11-2
modulator
12-1
12-2
sending data
pre-compen-sation encoder
20-1
20-2
disper-sion equaliza-tion decoder
21-1
21-2
optical receiver
received data

FIG. 2(a1)

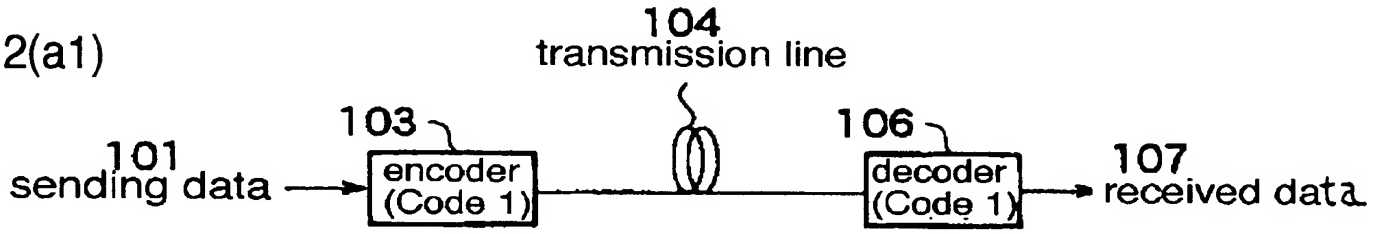


FIG. 2(a2)

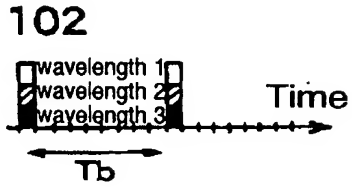


FIG. 2(a3)

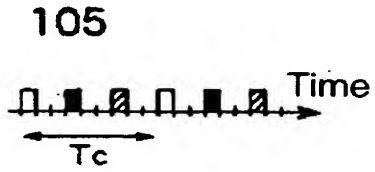


FIG. 2(a4)

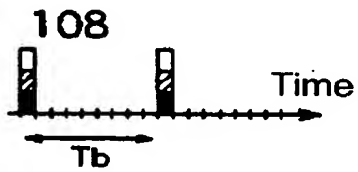


FIG. 2(b1)

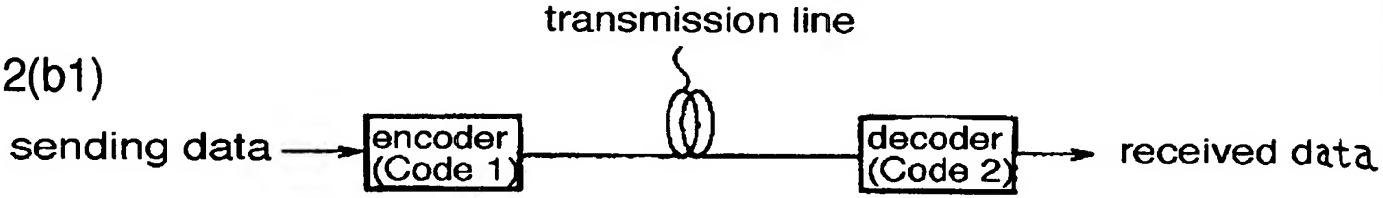


FIG. 2(b2)

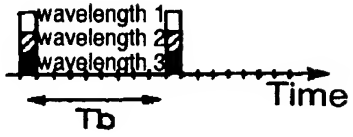


FIG. 2(b3)

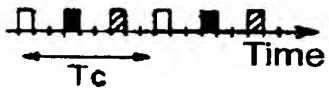


FIG. 2(b4)

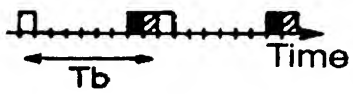


FIG. 3(a)

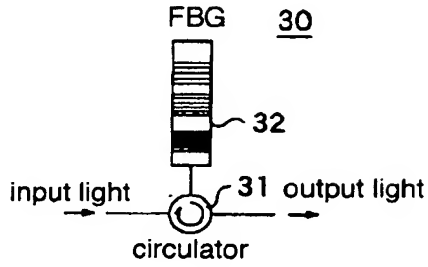


FIG. 3(b1)

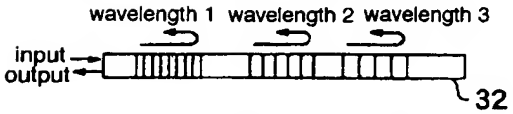


FIG. 3(b2)

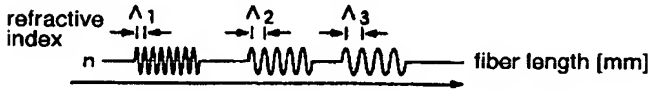
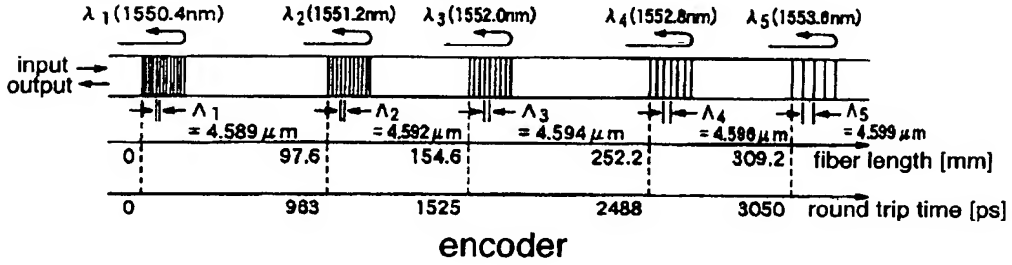
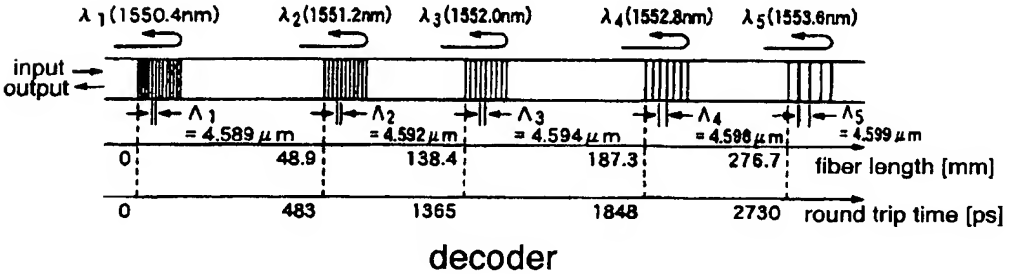


FIG. 4(a)



encoder

FIG. 4(b)



decoder

FIG. 5

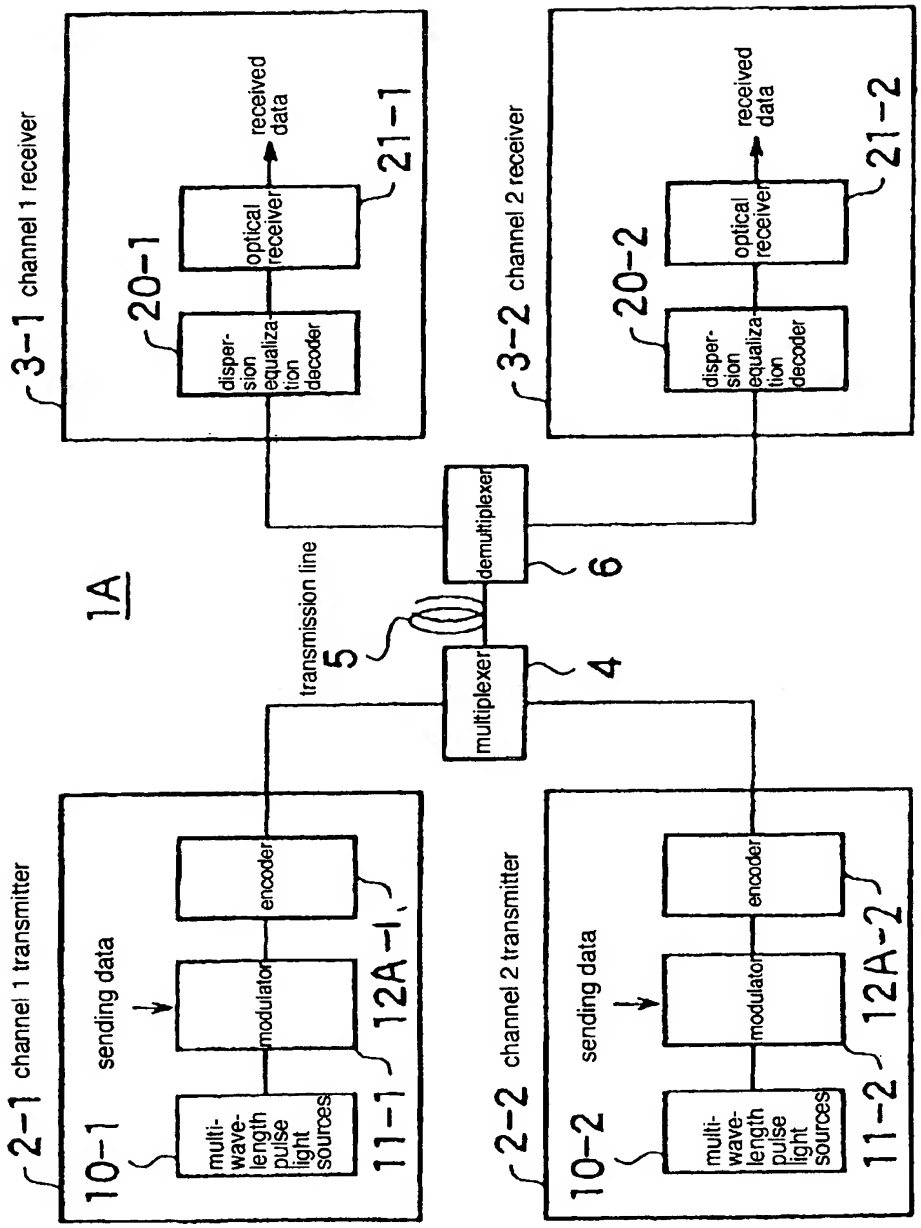

1A
2-1 channel 1 transmitter
sending data
10-1
multi-wave-length pulse light sources
11-1
modulator
encoder
12A-1
2-2 channel 2 transmitter
sending data
10-2
multi-wave-length pulse light sources
11-2
modulator
encoder
12A-2
multiplexer
4
transmission line
5
demultiplexer
6
3-1 channel 1 receiver
20-1
dispersion equalization decoder
optical receiver
received data
21-1
3-2 channel 2 receiver
20-2
dispersion equalization decoder
optical receiver
received data
21-2

FIG. 6(a)

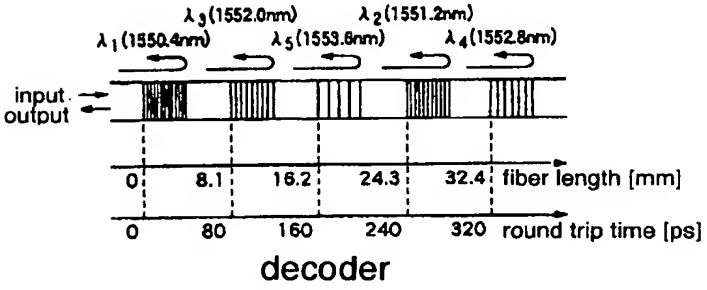

λ3(1552.0nm)
λ2(1551.2nm)
λ1(1550.4nm)
λ5(1553.6nm)
λ4(1552.8nm)
input
output
0
8.1
16.2
24.3
32.4
fiber length [mm]
0
80
160
240
320
round trip time [ps]
decoder

FIG. 6(b)

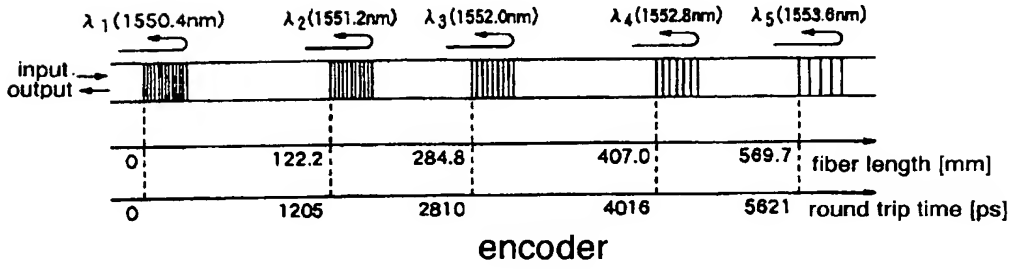

λ1(1550.4nm)
λ2(1551.2nm)
λ3(1552.0nm)
λ4(1552.8nm)
λ5(1553.6nm)
input
output
0
122.2
284.8
407.0
569.7
fiber length [mm]
0
1205
2810
4016
5621
round trip time [ps]
encoder

FIG. 7

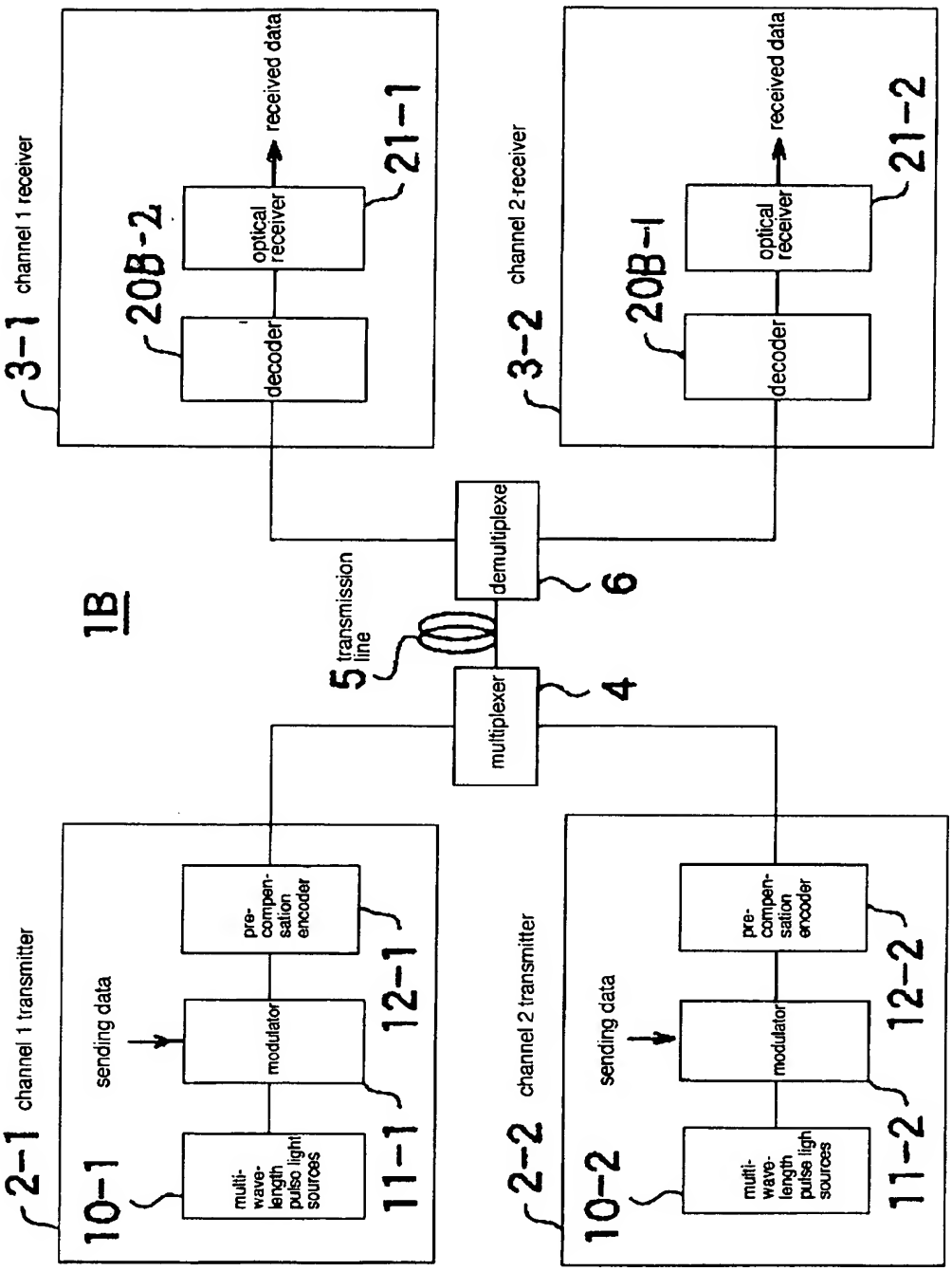

1B
2-1 channel 1 transmitter
10-1
multi-wave-length pulse light sources
11-1
modulator
12-1
pre-compen-sation encoder
sending data
2-2 channel 2 transmitter
10-2
multi-wave-length pulse light sources
11-2
modulator
12-2
pre-compen-sation encoder
sending data
multiplexer
4
5 transmission line
demultiplexe
6
3-1 channel 1 receiver
20B-2
decoder
optical receiver
21-1
received data
3-2 channel 2 receiver
20B-1
decoder
optical receiver
21-2
received data

FIG. 8(a)

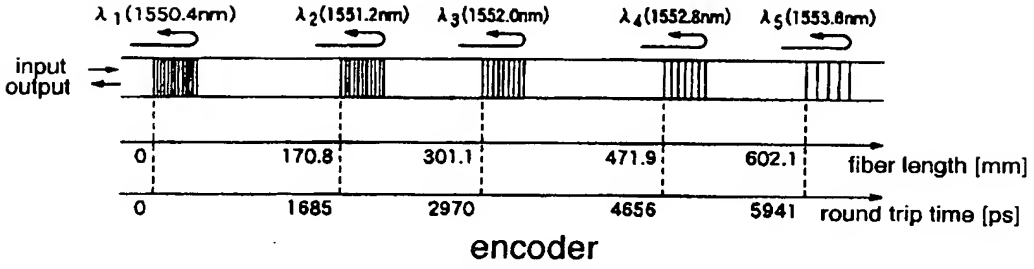

λ1(1550.4nm)
λ2(1551.2nm)
λ3(1552.0nm)
λ4(1552.8nm)
λ5(1553.6nm)
input
output
0
170.8
301.1
471.9
602.1
fiber length [mm]
0
1685
2970
4656
5941
round trip time [ps]
encoder

FIG. 8(b)

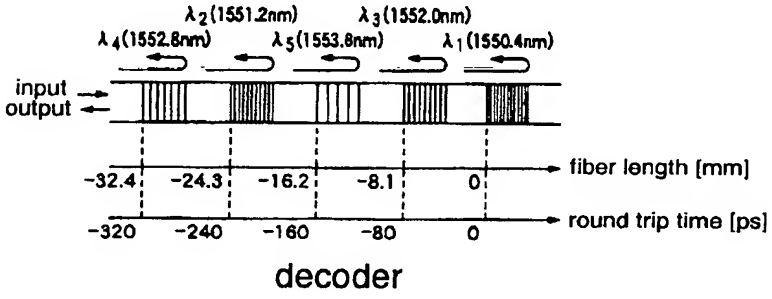
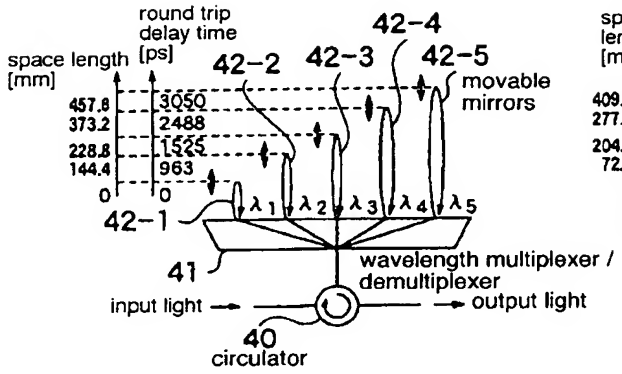
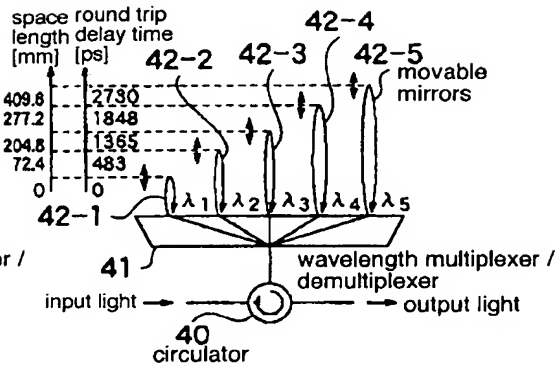

λ2(1551.2nm)
λ3(1552.0nm)
λ4(1552.8nm)
λ5(1553.6nm)
λ1(1550.4nm)
input
output
-32.4
-24.3
-16.2
-8.1
0
fiber length [mm]
-320
-240
-160
-80
0
round trip time [ps]
decoder

FIG. 9(a)



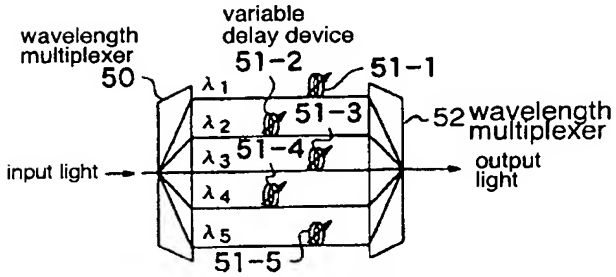
encoder

FIG. 9(b)



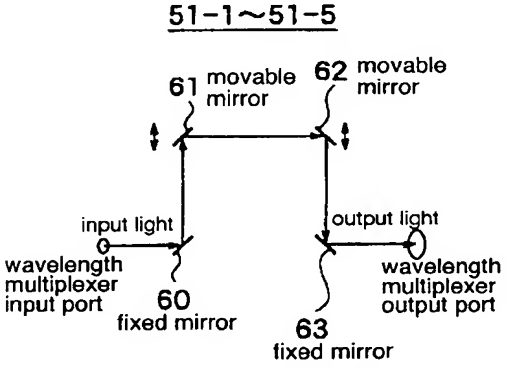
decoder

FIG. 10(a)



encoder, decoder

FIG. 10(b)



configuration of variable delay device